

CHAPTER 6

CASE STUDIES

6-1 GENERAL

This chapter presents case studies – programs for five hypothetical Recreation Centers, including Centers of 12,700 SF, 19,800 SF and 27,800 SF; a Center in “found space” (an existing building, not in use) and a remodeling of an existing standard design.

These studies are not to be construed as definitive designs but as guides to demonstrate how solutions were derived in specific contexts. The procedure, as well as the information presented, is in an abbreviated form to show a few of the important considerations. An analysis in greater depth with more detailed information would be required to actually plan and design a Recreation Center.

6-2 12,700 SF CENTER

a. **SITUATION.** This installation is located in the southwestern United States between two medium-size towns and approximately 45 miles west of the state capital. The post consists of 1,500 enlisted personnel and has no training units. The surrounding towns provide typical leisure activities as well as unique opportunities for skiing, backpacking, and rock hunting in nearby mountains.

Currently the Recreation Center is housed in a temporary building which is scheduled for demolition to build new troop housing. Therefore, a new Recreation Center is to be built as part of a small community center located between the married enlisted men's and non-commissioned officers' housing and the barracks complex. Other facilities in the complex are an Arts and Crafts Center, Movie Theater, a Post Exchange with complete food service, and a library.

The post area climate is hot and arid with an annual normal temperature range of 35°-105° F; annual precipitation, 7.20 inches; prevailing southwesterly breezes in summer, 18 mph.

The Center site is long and narrow with the

main post road on its southern property line. There are views of distant mountain ranges from the site.

b. **CURRENT USAGE.** There are an average of 150-200 people in the existing Center at peak hours of use during weekdays; when there are large group activities on weekends, attendance increases to about 300-350 people. The Center is operated by two full-time staff members.

A full range of regular programs is provided at the Center as well as a small number of Special Interest programs and a recently initiated Information Tour & Travel program.

It is conjectured that use of the Center will remain fairly constant in the future, but there is a possibility that the installation will grow.

c. **PLANNED ACTIVITIES AND PROGRAMS FOR THE NEW CENTER.** The following activities are anticipated for the new Center. These were planned on the expansion of current popular programs and the provision of new activities in which patrons have expressed interest.

(1) *Administrative.* The professional staff, involved in planning, supervising, and participating in all programs at the Center, is assisted by dependent and military volunteers who conduct some of the planned activities. A staff member operates the control desk and the ITT program.

(2) *Large Group.* Usually there will be three planned weekly large group functions – Friday night dances, Saturday night socials with live entertainment, and Sunday night films. Attendance will range from 200-250. In addition, there will be bi-weekly demonstrations of Kung-Fu, fencing, and other exhibitions which will have about 60-100 attendees. The Center will be used for non-recreational events such as unit parties in which about 200 people attend, as well as community activities such as blood drives.

(3) *Small Group.* During the week, patrons have displayed a great deal of interest in self-generated activities, especially billiards and card playing, which are expected to attract about 50 participants each in the new Center. There will usually be one card and pool tournament each week with as many as 50-60 entrants and spectators expected.

The Center also operates some informal classes on "cooking for fun" (15 people) and rock collecting (10 people). TV viewing is not as popular as other small group activities; it may draw 25 people per night. A rap session about social awareness topics will involve 20 people per week and an informal combo practice (5 persons playing, 15 spectators) will take place nightly.

(4) *Special Interest.* Groups currently meet three nights per week for coin collecting, skiing, and rock hunting. Since this program is relatively new, interest must be generated to increase participation from the 20 members each club has now. There is also a "slimnastics" class specifically for enlisted wives which meets in the early evening.

(5) *Refreshments.* Since the Center will be located within walking distance of a full service PX facility, the only refreshment activities which will occur are snacking during regular hours and special refreshments provided by the Center for special events and festivities.

d. **SPACES REQUIRED.** The following spatial requirements have been derived from current and planned Center activities and programs.

(1) *Administrative Offices.* As recommended in Chapter 4.

(2) *Large Group Activities.* The central program space should be sized to a maximum of 250 people for movies and dances:

Movies: 250 x 8 SF/person = 2,000 SF

Dances: 250 x 15 SF/person = 3,750 SF

Because some dance-related activities can occur in lounges (sitting out, socializing, taking refreshments), the central program space should be reduced by 20%.

During the week the central program space will accommodate a variety of self-generated activ-

ities such as chess, table games, letter writing, record and tape listening, small meetings, etc. and should be spatially divided into smaller configurations scaled to the group sizes.

(3) *Small Group Activities.* Small group space must be programmed to allow activities to overlap in each space; the central program area can be used weeknights to house larger activities (rap sessions, card tournaments, etc.).

One enclosed multipurpose space is required to house approximately 30 people involved in noisy activities (combo practice) and private activities (meetings and "slimnastics"). One open multipurpose space is required to house 10 people for recorded music listening, informal classes, and writing; four private carrels are also required.

Two TV lounges are required to accommodate 50 viewers for two local channels. Large TV events can be viewed in smaller lounges with portables or a large projection screen in the central program space.

(4) *Special Interest Programs.* Since these programs are new, they should occur in open areas such as the central program space, lounge areas, or multipurpose areas to attract new participants.

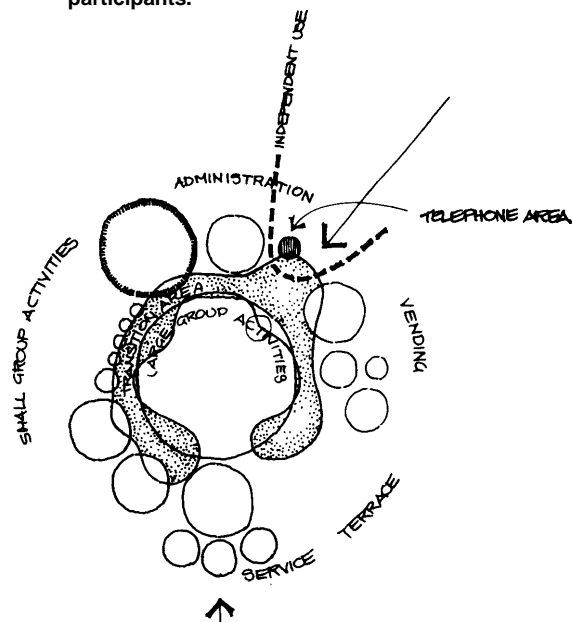


Figure 6-1 Spatial Diagram 12,700 SF Center

e. SUMMARY OF SPATIAL REQUIREMENTS.**Table 6-1. Spatial Requirements 12,700 SF Center**

Administrative Spaces	
Information Tour & Travel	50
Control	150
Administrative Offices	400
Storage	250
Large Group Spaces	
Central Program Space	3,000
Platform	750
Dressing, Storage, Loading	600
Small Group Spaces	
Pantry	250
Telephones	100
Carrels (4)	120
Open Multipurpose	150
Enclosed Multipurpose	600
TV/Meeting	750
Active Games	1,490
Refreshment (AAFES Food Service & Games)	
Vending Machines & Games	850
Lobby	150
Service Spaces	
Public Toilets	450
Janitor's Closet	50
Net Total	10,160
Transition Space + Net to Gross @ 25%	2,540
TOTAL (Excluding Mechanical Space)	12,700

f. DESIGN SOLUTION. This solution is developed as an outwardly oriented, linear spatial organization pattern because of the site configuration and climatic patterns to permit constant ventilation during most of the year. Also, because of local climatic conditions, the building incorporates a number of terraces, provided for outdoor activities; these are located on the northern side of the building to reduce glare and heat.

Noisy areas (billiards and pingpong) are separated from the central program space by the enclosed multi-purpose space. The highly used billiards and eating areas are located at the opposite ends of the circulation spine to draw people past other activities.

The central program area is developed as a bilevel space. When used for dances, the lower area would serve as the dance floor and the upper area would be a lounge with tables and chairs. The pantry is located so that refreshment service during large group activities could use the upper level of the central space as a lounge. During movies and platform presentations, the two levels would afford better sight lines to viewers sitting in the rear. The stepped platform could be used for "in the round" seating for demonstrations and small presentations or as a lounge when no large group activities are in operation.

Two TV areas are developed to insure that a choice of channels would be available to the viewers.,

The exterior of the building expresses its location in the Southwestern United States by reflecting the local, regional architecture and the local climate conditions in the choice of materials, the use of architectural detail, and the control of fenestration. The overall design is developed as a low, horizontal scheme that is emphasized by long blank walls, with a minimum of small punched openings, wide overhangs that cast strong shadows, and being clad with a single, unified material, stucco. A band of high windows surrounding the Center under the overhang allows diffused, reflected natural light to enter the building; in the central program space a raised roof section with a similar band of windows naturally lights this area; where needed, small square windows are located to provide vision to the exterior. As a contrast to the solidness of the rest of the facade, the entry is glazed to emphasize its openness, to be inviting to people entering, and to enable internal activities to be seen.

To reinforce "the building's horizontality and to extend its apparent size, wing walls are added to the terraces.

g. TECHNICAL SOLUTION. The structural scheme selected is a combination of long span and short span steel joists bearing on masonry walls. To reduce cost, these would be exposed in all large areas whose technical requirements would permit it; to present an orderly and

attractive appearance, all joists would be oriented in the same direction.

Because of the climate – lack of rain – a flat roof (1/4" per foot of slope) with large overhangs was selected to reduce cooling loads. The exterior of the building will be faced with latex stucco to have the same visual quality as the regional adobe architecture. The fenestration of the building is maximized on the northern elevation and minimized on the southern to reduce solar heat build-up in the Center.

Figure 6-2 **Plan 12,700 SF Center**

12,700 SF Center

KEY

TRANSITIONAL ACTIVITY

- 1 Circulation/Lounge Space
- 2 Lobby

LARGE GROUP ACTIVITY

- 3 Central Program Area
- 4 Platform
- 5 Pantry

SMALL GROUP ACTIVITY

- 6 Active Game Area
- 7 TV Lounge
- 8 Open Multi-Purpose Area
- 9 Enclosed Multi-Purpose Area
- 10 Telephone Lounge
- 11 Carrels

ADMINISTRATIVE ACTIVITY

- 12 Control Center
- 13 Administrative Offices
- 14 ITT

REFRESHMENT ACTIVITY

- 15 Vending

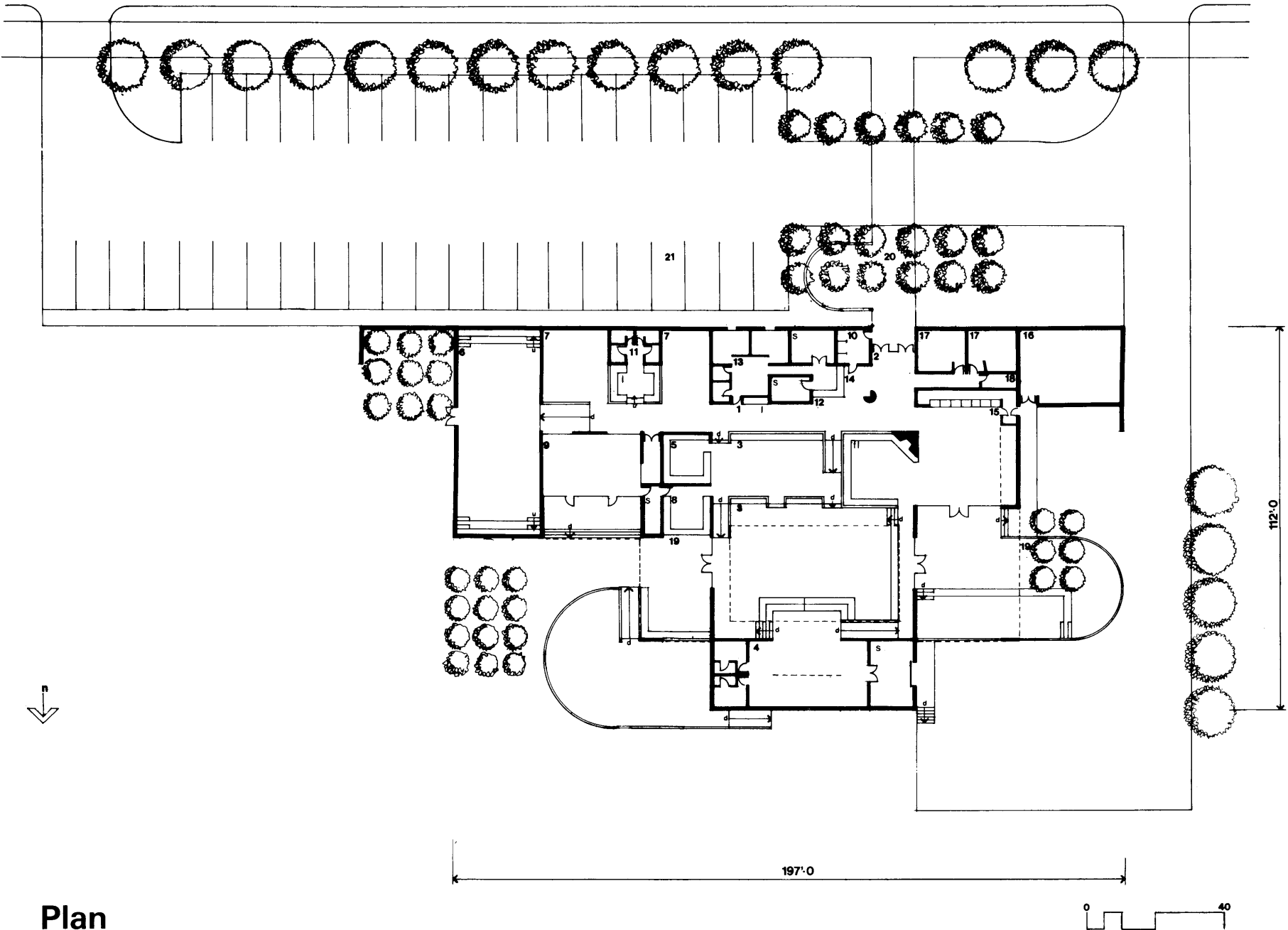
SERVICE ACTIVITY

- 16 Mechanical
- 17 Public Toilets
- 18 Janitor's Closet

OUTDOOR ACTIVITY

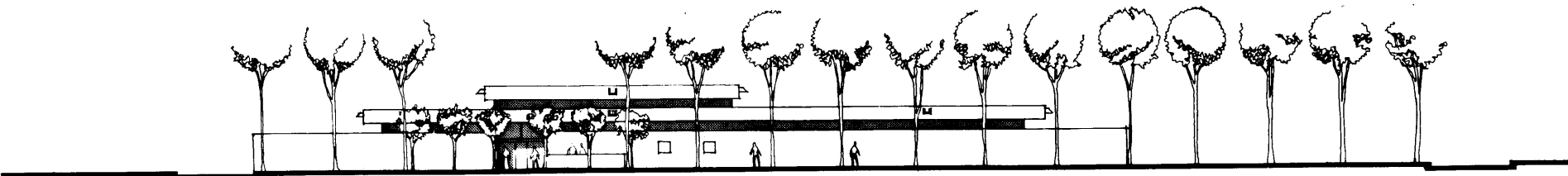
- 19 Terrace
- 20 Entry Court
- 21 Parking

- s storage
- l lounge
- fl fireplace lounge

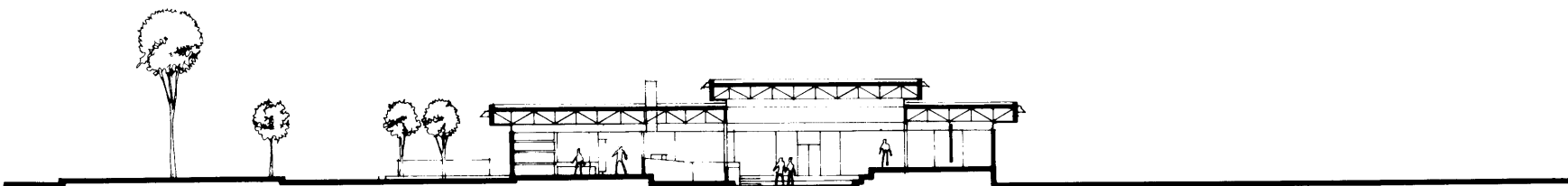
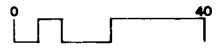


Plan

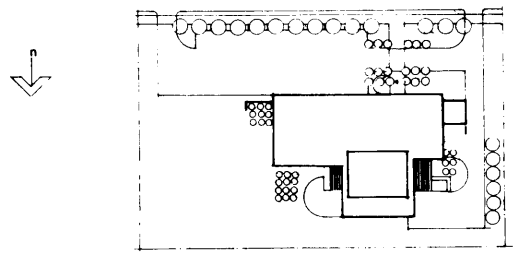
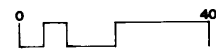
Figure 6-3 **Elevation & Section 12,700 SF Center**



Elevation



Section



Site Plan



6-3 19,800 SF CENTER

a. **SITUATION.** The fort is located in the middle northwestern prairies, approximately 150 miles from the nearest city; there are two small towns near the fort which have a sizable population of retired military personnel. The military population is 3,975, of which 2,075 are enlisted personnel, 70% being permanent party personnel and 30% advanced training personnel.

Since the surrounding area offers little in leisure or tourist facilities, most of the military community's recreation activities must be provided by the installation. Recognizing this need, the commander is requesting that a new community center be built to replace the obsolete and over-crowded temporary buildings now in use. This community center will have facilities for all recreation programs as well as post exchange, GED Center, theaters, guest house, and restaurant. The two existing Recreation Centers located in isolated temporary buildings will be demolished for new housing construction.

The climate of this area is severe: normal temperatures are 86° F in the summer and 0° F in the winter; annual extreme temperatures are 114° F and -45° F. Annual precipitation is 15.15 inches and the annual snowfall is 34.8 inches. The northerly winter winds average about 35 mph and the westerly summer breezes about 10 mph. Noon solar angle is 69° on the summer solstice and 22° on the winter solstice.

The site is within walking distance of the training area and is located across the main traffic artery from the post exchange and movie theater and east of the GED Center and guest house. The site is flat with the road on the western side and no significant features or views.

b. **CURRENT USAGE.** The Center is used by 300-500 people on weekdays and 750-1,000 on weekends; it is open from 1-10 pm daily except Sundays, when it is open from 10 am-10 pm. Because of the lack of other facilities, the Center will be highly used for non-recreational events during the morning hours.

c. **PLANNED ACTIVITIES AND PROGRAMS FOR THE NEW CENTER.**

(1) *Information, Tour & Travel.* ITT is used quite a bit to plan small group trips to urban areas and to arrange reduced fare accommodations at the hotels and will continue to be highly active in the new Center where the program will be enlarged.

(2) *Large Group.* The predicted attendance range for large group activities will be as follows: 200, square dancing; 300, bingo; and 400, socials. Large group activities also include films, dances, festivals, socials and exhibitions with attendance averaging approximately 250 people.

(3) *Small Group.* Games, tournaments, and TV viewing are the most popular and will have about 100 people watching the two local channels and about 75 people playing games and cards nightly. Record and tape listening, taping, and combo practice sessions are extremely popular also, with about 30 people anticipated to request ear phones or records nightly; informal combo sessions also will occur nightly and will involve about 10 patrons.

Enlisted wives have expressed an interest in starting sewing and home decorating classes, and some people exhibited an interest in starting ecology and antique collecting classes. Rap sessions were not attempted in the old Centers because of a lack of space, but soldiers have indicated that they would be interested; a poll revealed that 60 people would be extremely interested and 30 people moderately interested, so a rap session program is to be initiated in the new Center for about 50 people three times a week.

(4) *Special Interest.* Groups meet every weekday night. The bike riding club (30 members) meets Sunday afternoons; there is a motorcycle club (50 members); enlisted wives club (100 members); ski club (25 members); coin collecting club (30 members); and ecology club (30 members). Meeting activities range from lectures, exhibitions, work on projects, business meetings, and planned outside activities. Since the Special Interest Program is well organized and attended, it will definitely be included in the new facility and hopefully expanded.

(5) *Refreshment.* These activities center on a vending area with seating for 38 and electric games, as recommended by Army and Air Force Exchange Services.

d. **SPACES REQUIRED.** The following spaces have been derived from current and planned Center activities and programs:

(1) *Administrative.* Off ice space is required for three full-time staff members (as outlined in Chapter 4) with ITT spaces including work areas and counter space.

(2) *Large Group.* The central program space is planned to house its most extensive use, 300 people for bingo, which requires that all people be located in proximity to the platform.

300 x 10 SF/person = 3,000 SF

Because dances and socials have as many as 400 participants, there should also be a lounge for 50 people:

50 x 15 SF/person = 750 SF

(3) *Small Group.* These spaces should be sized in accordance with guidance presented in Chapter 4.

- 1 enclosed large space for informal combo sessions, group meetings, audio-visual presentations (600 SF)
- 2 enclosed small spaces for music practice, classes, and small meetings (150 SF each)
- 8 enclosed cubicles for recorded music listening and taping and writing; headphone jacks should also be provided in other lounge areas (30 SF each)
- 2 open multipurpose spaces for rap sessions, hobby activities, game playing, and card playing (1 @ 150 SF and 1 @ 600 SF)
- 1 pantry for refreshments and cooking class (250 SF)
- 2 TV viewing areas for 70 people; open on transition space for overflow:

70 x 15 SF/person = 1,050 SF

active games areas should include the following:

Pingpong 2 tables@	250 SF = 500 SF
Billiards 6 tables@	215 SF = 1,290 SF
Electric Games	= 700 SF
Seating	= 210 SF

(4) *Special Interest.* The special interest room should be sized to hold 60 people who are in club meetings or working on projects:

60 x 20 SF/person = 1,200 SF

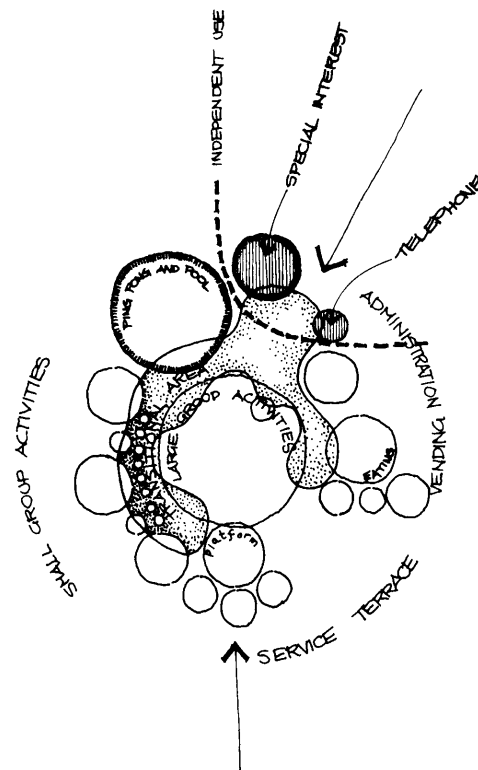


Figure 6-4 Spatial Diagram 19,800 SF Center

e. SUMMARY OF SPATIAL REQUIREMENTS.

Table 6-2. Spatial Requirements 19,800 SF Center

Administrative Spaces	
Information Tour & Travel	100
Control	300
Administrative Offices	500
Storage	350
Large Group Spaces	
Central Program Space	3,750
Platform	750
Dressing, Storage, Loading	800
Small Group Spaces	
Pantry	250
Telephones	200
Carrels (8)	240
Open Multipurpose (small)	150
Open Multipurpose (large)	600
Enclosed Multipurpose (small)	150
Enclosed Multipurpose (large)	600
TV/Meeting	1,050
Active Games	
Pingpong	500
Billiards	1,500
Electric Games (not AAFES)	700
Special Interest	1,200
AAFES Food Services & Games	1,150
Lobby	350
Service Spaces	
Public Toilets	600
Janitor's Closet	50
Net Total	15,840
Transitional Space + Net to Gross @ 25%	3,960
TOTAL (Excluding Mechanical Space)	19,800 SF

f. DESIGN SOLUTION. This Recreation Center is spatially organized in a central scheme which develops a greater envelope/enclosure ratio to aid in energy conservation. Because of the severe climate and the lack of site amenities, the building is inwardly oriented toward a complex central program area. The purpose of this interior form is to provide visual interest and to make the central space less formal and more inviting to the users. Also, this spatial organizational concept enables the

exterior of the building to be developed in a manner that achieves maximum energy conservation. This is accomplished by surrounding the building with earth berms and covering the roof with earth, which functions as insulation material, reduces exterior wall surface, and gives the Center a distinctive exterior appearance that fits the ecology of the area.

The central program space is a series of stepped levels which permit a number of smaller activities to coexist with a large group activity taking place in the center. The central space can be used as a "seating in the round" with the center of attraction in the lower level or "traditionally" with the speakers and performers on the presentation platform or as a series of small informal lounge areas. The stepped levels enable the viewers at the rear to have better sight lines. To provide natural light in the central program space, a cluster of skylight monitors is located above the stepped area forming a pool of natural light and pleasant ambience.

The popular small group activities are located at the extremes of the circulation paths to draw people through the Center and to isolate noisy activities from quiet ones.

The angular TV viewing room is developed with informal built-in stepped seating focused toward the screen to give everyone good visibility.

The control desk is projected out into the transition space to give greater visual access to all areas of the Center. The pantry relates positively to the administrative area, central program space, and terrace. The terrace is located on the south for greater usability with a covered area to reduce summer sun to the building.

This solution employs two different spatial configurations for the large multipurpose space. One is designed to house private meetings and combo practice and consists of a series of stepped platforms which surround central space; this space can also be used for lectures and meetings by having the speaker stand in the podium corner; the other is a flexible and open multipurpose space.

The visual character of the Center is characterized by its location on the prairie with a low flat silhouette that blends into the natural qualities of the landscape. The earth berms are interspersed with light wells formed by wing walls where openings are required for vision or access and to add visual interest to the facade.

To draw people into the Center and to emphasize the entrance of the building a diagonal wing wall opens the berm to the entry and forms the entry court.

g. TECHNICAL SOLUTION. The structural concept is one central long-span steel joist construction over the central space, around which there is a short-span steel joist system over the enclosing small group spaces. Since the snowfall is moderate and the climate dry, a moderately sloping roof is appropriate, using earth-fill on the roof to serve as additional insulation. Because of acoustical considerations, the small group spaces should have a dropped acoustical ceiling. The exterior envelope would be an insulated masonry wall with a minimum of openings for fenestration.

Figure 6-5 **Plan 19,800 SF Center**

19,800 SF Center

KEY

TRANSITIONAL ACTIVITY

- 1 Circulation/Lounge Space
- 2 Lobby

LARGE GROUP ACTIVITY

- 3 Central Program Area
- 4 Platform
- 5 Pantry

SMALL GROUP ACTIVITY

- 6 Active Game Area
- 7 TV Lounge
- 8 Open Multi-Purpose Areas
- 9 Enclosed Multi-Purpose Areas
- 10 Telephone Lounge
- 11 Carrels
- 12 Special Interest Area

ADMINISTRATIVE ACTIVITY

- 13 Control Center
- 14 Administrative Offices
- 15 ITT

REFRESHMENT ACTIVITY

- 16 Vending

SERVICE ACTIVITY

- 17 Mechanical
- 18 Public Toilets
- 19 Janitor's Closet

OUTDOOR ACTIVITY

- 20 Terrace
- 21 Entry Court
- 22 Parking

- s storage
- l lounge
- fl fireplace lounge

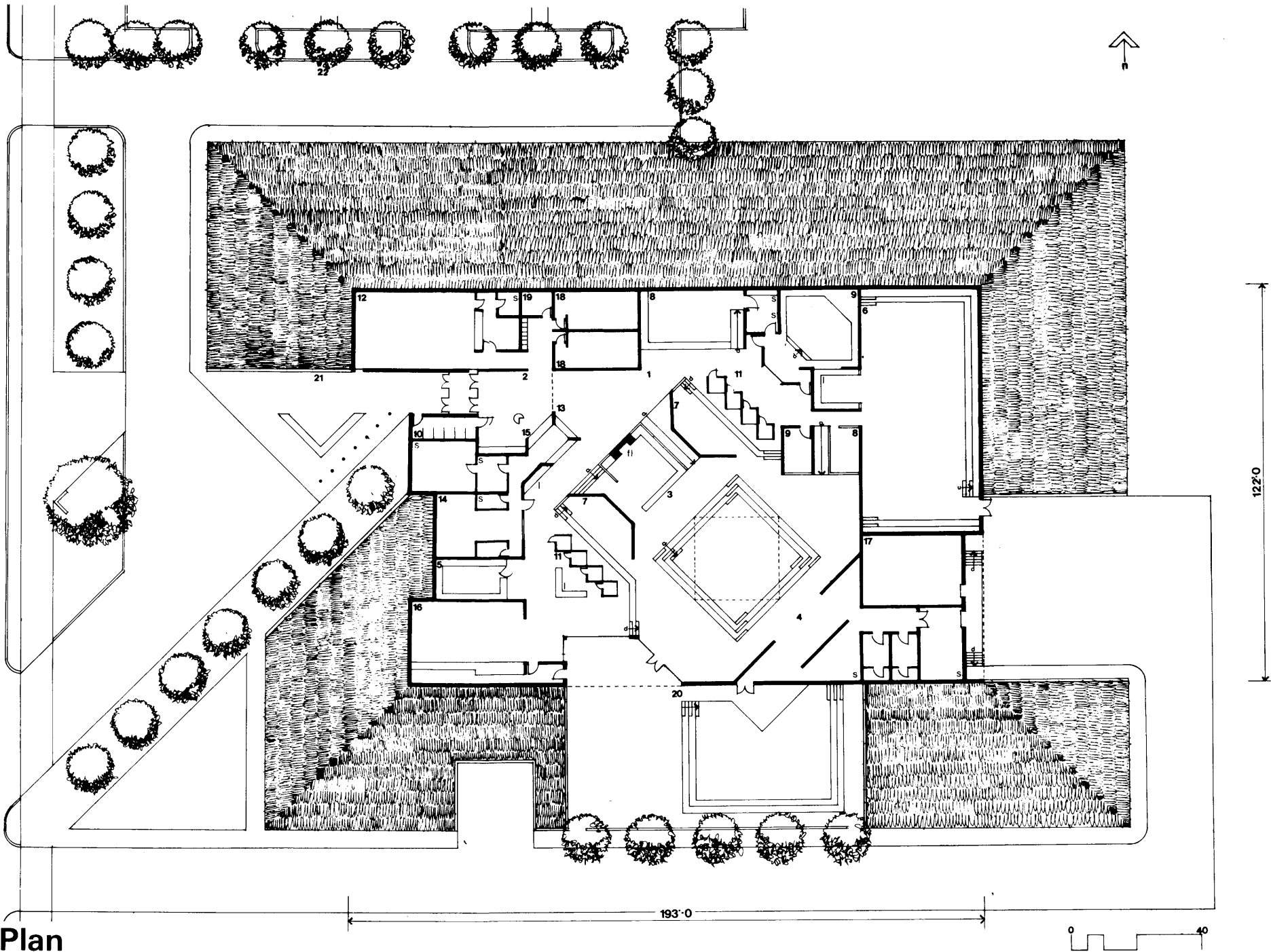
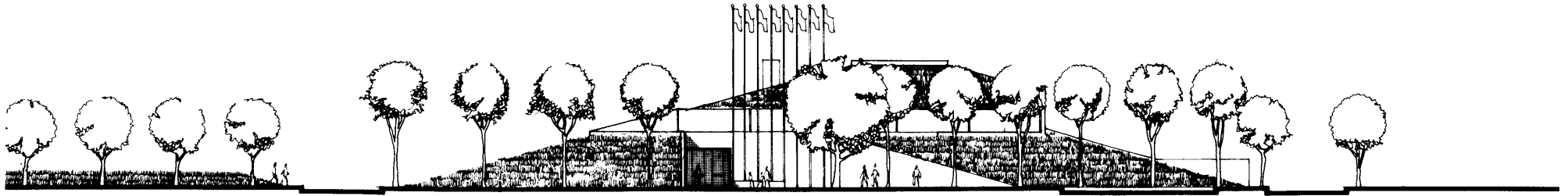
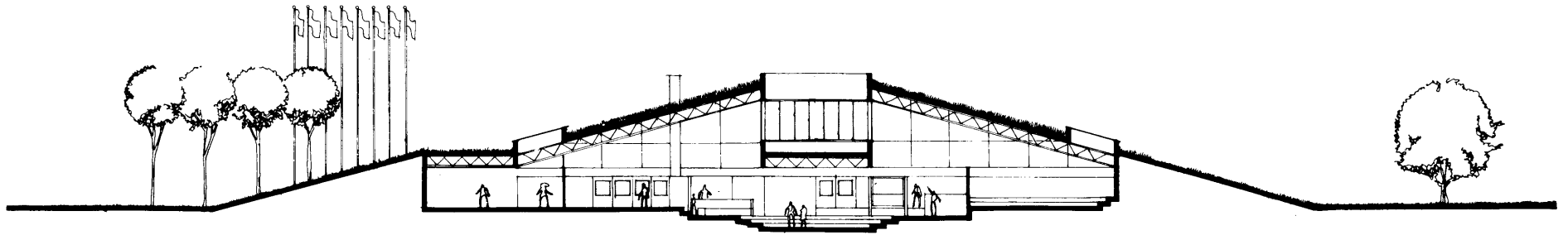


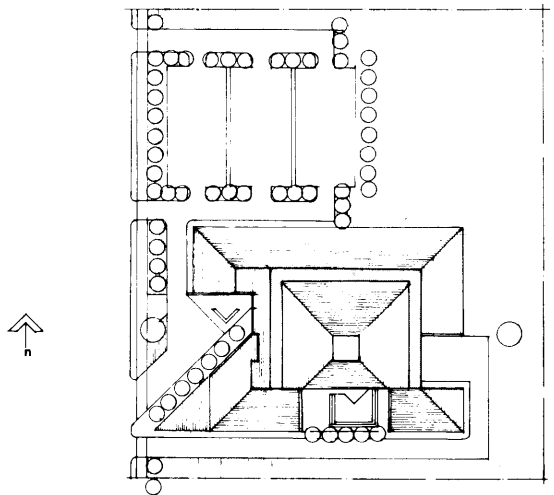
Figure 6-6 **Elevation & Section 19,800 SF Center**



Elevation



Section



Site Plan

6-4 27,800 SF CENTER

a. **SITUATION.** The post is located on the west coast near a large metropolitan area which offers a number of off-post recreational facilities for outdoor activities such as surfing, skiing, and back-packing as well as typical urban activities such as the theater, restaurants, and night life. The military population consists of over 10,000 men (6,000 enlisted men), which includes 50% permanent party personnel and 50% basic trainees.

A new main Recreation Center will be built between two training commands in an area that has theaters, libraries, and swimming pools, but does not have post exchange restaurant facilities located in the vicinity. The objective of the Center is to relieve overcrowding of two Branch Centers which suffer from a lack of space and over-use during the weekends by trainees.

The site is located on the crest of a hill overlooking the rest of the Center and the Pacific Ocean to the south and west. The climate is mild with a normal temperature range of 48° F - 72° F winter to summer, with extreme temperatures at 29° F and 98° F. Annual rainfall is 18.02 inches and no measurable snow. Winds are westerly at an average of 20 mph. There are 134 clear days per year, 132 partially cloudy days, and 68 rainy days per year. The noon solar angle is 76°-30' on the summer solstice and 28°-30' on the winter solstice.

b. **CURRENT USAGE.** The projected use of the Center is high. The current Centers handle approximately 200 people per hour during the weekends; it is projected that this trend will continue, with Center use heaviest during the weekends, averaging 1500 to 2500 people per day when the trainees use the Center.

During the weekdays the Center is normally used by the permanent party personnel; usage is down to about 300 to 500 per day. The projected high usage of the building indicates that there will be extreme problems with control, noise, congestion, and maintenance. Since the trainees present a problem with drinking, the results of a poll of permanent party personnel indicate that they would prefer

that beer and wine not be served at the Center.

c. **PLANNED ACTIVITIES AND PROGRAMS IN THE NEW CENTER.** The Center staff wants to provide a full range of regular programs and increase the number of large group programs that involve both the permanent and trainee groups while still recognizing some incompatibilities of the two groups.

(1) *Administrative.* There are five full-time staff members involved in administering Recreation Programs. At this Center, ITT will be a full-time activity which involves distributing tickets for on- and off-post events as well as arranging group travel and outings and making accommodations at nearby military campgrounds,

(2) *Large Group.* These activities are planned to accommodate the two different using groups, permanent party personnel and trainees. On weekends, the emphasis is on socials that include dancing, rock and folk entertainers and ethnic festivals; the attendance at these events is projected to be approximately 500 people. During the weekdays, the programs are geared to the permanent party personnel with films, socials, demonstrations, card tournaments, and organized games; the attendance is expected to range from between 100 to 250 people. Also, there may be unit parties which will have between 100-300 participants; these will occur during the week. There is some indication that if the activities are located in a better facility, there will be an increase in participation.

(3) *Small Group.* These activities now comprise the bulk of planned program activities taking place in the Center. The most popular activities are billiards, informal combo practice, record and tape listening, and TV viewing. Billiards normally attracts about 75 people with an equal number using electric games (pinball, electronic tennis, air hockey); this popularity will continue in the new Center but will not increase because of the new activities being planned.

TV viewing involves about 100 people per night; it is believed that this would be reduced if participation in other activities could be

encouraged. There is a rap session held twice weekly and normally involving 50 people; smaller sessions also occur. The spontaneous informal use of musical instruments is very popular; there are at least two sessions nightly involving about 20 people; this should remain constant. A minimum of 30 requests are received nightly for ear phones or recording equipment.

(4) *Special Interest.* These activities include the following: women's groups (60); Chess Club (60); Skiing Club (80); Scuba Club (40); and Coffee House for social awareness (70).

(5) *Refreshment.* These activities center around an 84-seat snack bar with electric game area, as recommended by AAFES.

d. **SPACES REQUIRED.** The following spatial requirements have been derived from existing and planned Center activities and programs:

(1) *Administrative.* Recommended in chapter 4 for five full-time staff,

(2) *Large Group.* Central program area sizing is complex because of different sizes of groups handled weekends and weekdays. The weekend social would require about 4,500 SF maximum. The solution must be to develop a central program area as a large space with several adjoining lounges that can be used to hold people socializing during dances and other activities during weekdays. The central program space should accommodate 300 with adjoining lounge space for 100.

300 x 10 SF = 3,000 SF
100 x 15 SF = 1,500 SF
TOTAL 4,500 SF

(3) *Small Group.* As Centers become larger, less and less overlap occurs with small group spaces. Individual space requirements in Chapter 4 govern:

- 2 enclosed multipurpose spaces for 30 people involved with private meetings, music, taping of music, etc. (150 SF each)
- 1 open multipurpose space for 30 people involved in quiet activities (150 SF each)
- 2 enclosed spaces for 10 people involved in noisy activities (150 SF each)
- 1 open space for 10 people involved in card playing (150 SF each)

12 carrels for letter writing, record and tape listening, music taping, and other individual activities (30 SF each)

24 jack locations in lounge areas

- 1 active game area for 2 pingpong tables, 8 billiard tables, 4 air hockey machines, and 10 pinball machines (3,785 SF)

(4) *Special Interest.* Separate space is required to accommodate 60 people involved in activities or meeting space for 50 people (1200 SF).

(5) *Refreshment.* Since there is no full-scale food service nearby, there is a need for one to be incorporated into this Center.

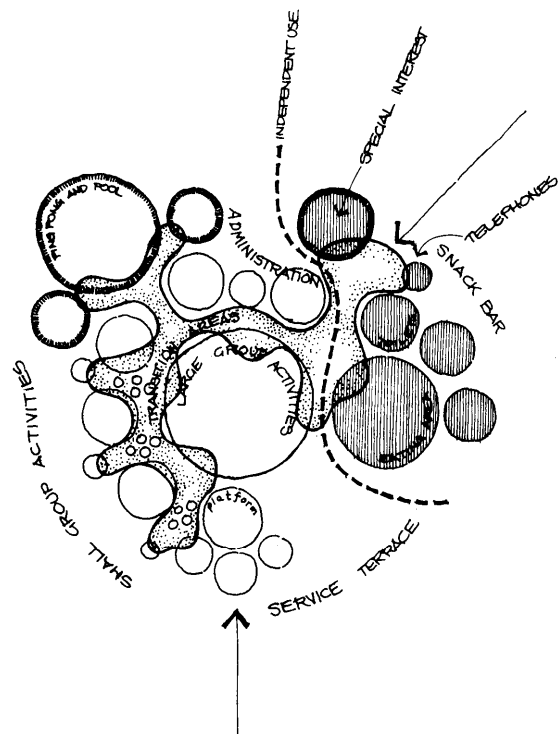


Figure 6-7 Spatial Diagram 27,800 SF Center

e. SUMMARY OF SPATIAL REQUIREMENTS

Table 6-3. Spatial Requirements 27,800 SF Center

Administrative Spaces	
Information Tour & Travel	170
Control	400
Administrative Offices	775
Storage	400
Large Group Spaces	
Central Program Space	4,500
Platform	750
Dressing, Storage, Loading	1,200
Small Group Spaces	
Pantry	250
Telephones	300
Carrels (12)	360
Open Multipurpose (small) [1]	150
Open Multipurpose (large) [1]	600
Enclosed Multipurpose (small) [2]	300
Enclosed Multipurpose (large) [2]	1,200
TV/Meeting	1,250
Active Games	
Pingpong	500
Billiards	2,000
Electric Games (not AAFES)	1,285
Special Interest	1,200
AAFES Snack Bar & Games	3,450
Lobby	500
Service Spaces	
Public Toilets	650
Janitor's Closet	50
Net Total	22,240
Transition Space + Net to Gross @ 25%	5,560
TOTAL (Excluding Mechanical Space)	27,800

f. DESIGN SOLUTION. This scheme is oriented outwardly toward the views of the bay from the site; it incorporates a large outdoor terrace that serves the central program space and the snack bar as an overflow area as well as houses many outdoor activities. The mild climate of the area allows the building design to incorporate large areas of glass, especially on the southern and northern facades, and to use skylight monitors to provide daylight in the interior spaces of the building.

Because of noise problems, a dispersed spatial organization is developed to isolate the noisy areas and buffer the open spaces. The active game area is separated from the open central space by the enclosed small group activity spaces, which serve as sound barriers as well as enclose noisy activities. The snack bar and active games area are separated to reduce noise conflicts and functional and administrative problems.

The snack bar, special interest area, ITT, and telephone lounge are located in close proximity to the lobby and restrooms because they function during hours when the remainder of the Center is not open. Through the use of rolling security screens mounted in the ceiling, these areas can be isolated from the rest of the Center.

The central program space is designed as a large depressed central area for dancing, exhibitions, and seating, with raised circulation space surrounding it, and lounges and presentation platforms adjoining it. The dance area is ringed with built-in seating steps that function as informal seating during dances or demonstrations. Circulation to the dance floor is provided by a series of ramps which enclose the fireplace lounge; this serves a special functional purpose by accommodating the special needs of the physically handicapped and incorporating it as an integral and important element of the design. The platform area of the central space is at the same level as the main Center floor to facilitate the movement of heavy equipment from the platform and storage areas to other parts of the facility.

TV viewing areas are separated to reduce conflicts between those watching different shows and shaped to provide the best viewing angles.

g. TECHNICAL SOLUTION. Because of the number of people using this building and its size, its construction has to be fire-resistant and non-combustible. Based on the economic analysis at the time of design, the most cost-effective construction would be poured-in-place concrete structural system with exposed waffle slabs used throughout the building.

Figure 6-8 **Plan 27,800 SF Center**

27,800 SF Center

KEY

TRANSITIONAL ACTIVITY

- 1 Circulation/Lounge Space
- 2 Lobby

LARGE GROUP ACTIVITY

- 3 Central Program Area
- 4 Platform
- 5 Pantry

SMALL GROUP ACTIVITY

- 6 Active Game Area
- 7 TV Lounge
- 8 Table Game Area
- 9 Open Multi-Purpose Area
- 10 Enclosed Multi-Purpose Areas
- 11 Telephone Lounge
- 12 Carrels
- 13 Special Interest Area

ADMINISTRATIVE ACTIVITY

- 14 Control Center
- 15 Administrative Offices
- 16 ITT

REFRESHMENT ACTIVITY

- 17 Snack Bar
- 18 Electric Game Area
- 19 Kitchen

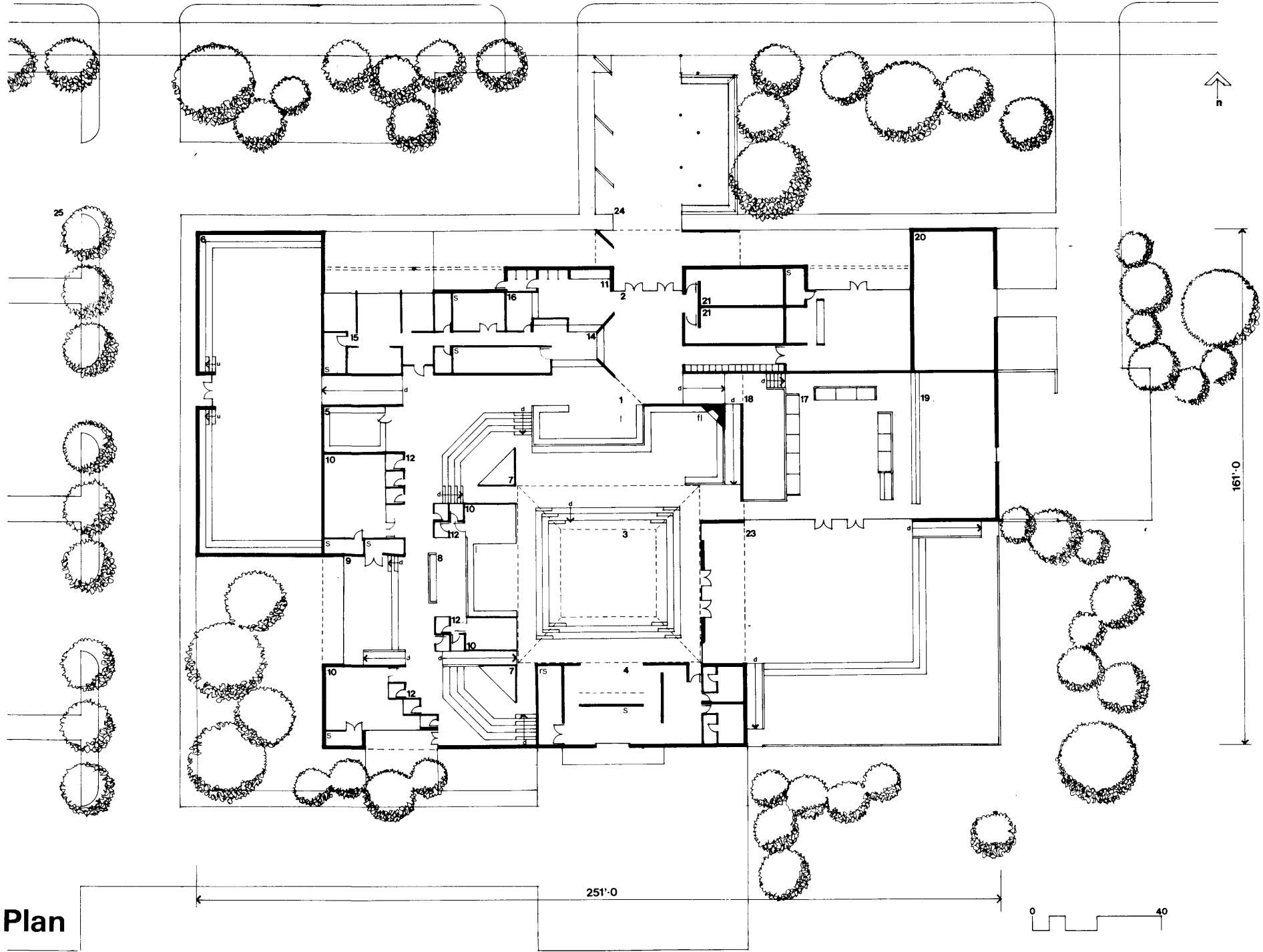
SERVICE ACTIVITY

- 20 Mechanical
- 21 Public Toilets
- 22 Janitor's Closet

OUTDOOR ACTIVITY

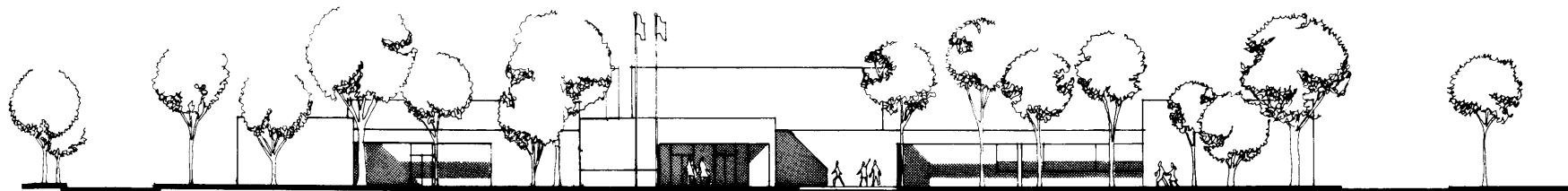
- 23 Terrace
- 24 Entry Court
- 25 Parking

- s storage
- rs recmobile storage
- l lounge
- fl fireplace lounge

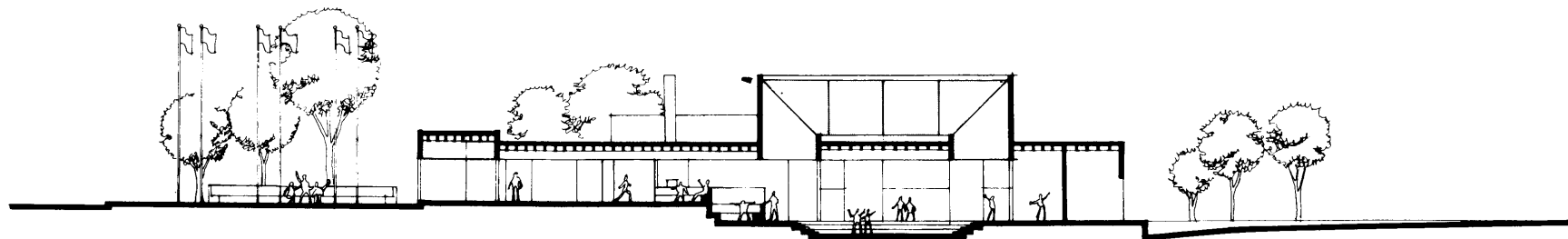


Plan

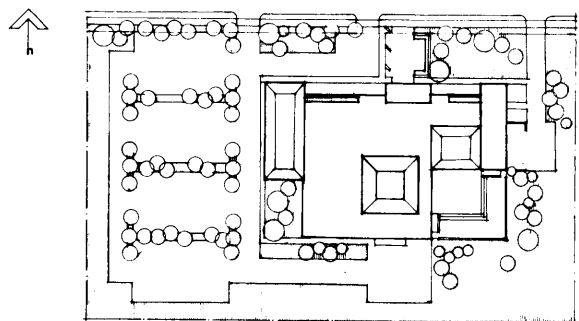
Figure 6-9 **Elevation & Section 27,800 SF Center**



Elevation



Section



Site Plan



6-5 FOUND SPACE

The following illustrates a case study of what can be done if there is not enough money available to construct a new Recreation Center and if there is an existing building not currently in use which could possibly house a Center. It should be stressed that this is an illustrative example and that the local situation and needs will govern the outcome of this type of endeavor. The purpose of this example is to outline a procedure that should be followed and to illustrate a potential design for a hypothetical building.

a. **EVALUATING FOUND SPACE.** To evaluate the suitability of an existing structure for reuse as a Recreation Center, the following criteria, in order of importance, must be fulfilled:

- (1) The structure should be permanent,
- (2) It must be located in proximity to housing, transportation, other recreation services, and PX facilities.
- (3) It must be large enough to house a full range of programs; this will vary depending upon installation population, successful programs, and existing equipment.
- (4) The site should be on a main circulation artery having post routes and have enough space for parking a minimum of 40 cars.

In addition to these criteria, the building must have the following critical features: a large space suitable for a central program area;

adequate utility service for loads outlined in Chapter 2; and a suitable physical condition to enable economical remodeling. Another desirable feature is a building which has a totally open interior, providing greater flexibility and ease of remodeling.

b. **PROGRAMMING FOUND SPACE.** Once the building has been determined to be suitable for use as a Recreation Center, a space requirements list is developed. There is a significant difference between developing found space requirements and developing new space requirements. Found space must conform to the structural, spatial, and environmental service limitations of the existing structure and the budget limitations for remodeling as well as being responsive to the recreation program and activities of the Center. Therefore, before planning can begin, a budget and survey drawings must be developed.

(1) *Budget.* The availability of funds for remodeling will have a great impact on planning by limiting the modifications that can be made to an existing structure. For example, if limited funds are available, the Recreation Center programs including activities, people, and equipment would have to fit into the building spaces as they exist without improvements. If sufficient funds were available, interior demolition and complete remodeling could take place, fitting the building to the Recreation Center program. Therefore, a realistic determination of funds must be developed.

(2) *Survey Drawings.* To plan the Center, an accurate survey of the building should be available which indicates the sizes of existing spaces and the structural and environmental systems of the building. The budget for the project will be determined by what has to be done to the building to make it usable to house the recreation program within the constraints of the available funds. The priorities of the Recreation Center program have to determine what modifications are most important, and what are the least important. For example, if the program planning indicates that the most important space requirement is a large central program area and the existing building requires

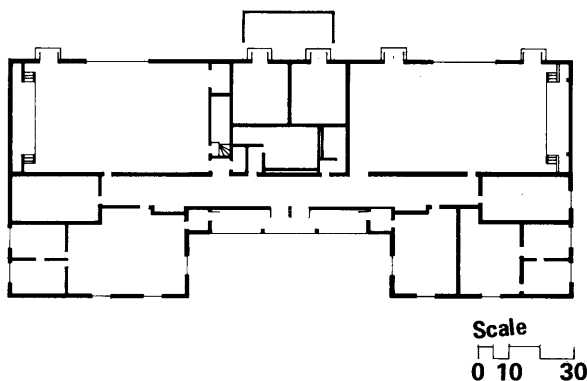


Figure 6-10 Plan Found Space Building

extensive modification to accommodate this need, this requirement should take precedence over other less important changes and would be included in the construction within a limited budget.

The planning of the Recreation Center program should follow the same procedure as outlined in Chapter 2, and should be guided by the criteria and principles stated in Chapters 4 and 5. The difference is that many of the space requirements will have to be modified to meet the constraints of the existing structure. However, the design of a Found Space Center should have the same design objectives of new construction — it should maximize social interaction and the patron's freedom of choice to pursue interests and activities.

c. **SITUATION.** The installation is located in the southeastern part of the country and has a military population of 4,401 permanent party personnel. An existing Center is located in a temporary building which has serious structural faults. The post commander has decided that the Recreation Center should be located in one of the several permanent buildings not currently being used.

d. **CURRENT USAGE.** The Center now being used has approximately 125-175 people in attendance during weekday peak activity hours. When there are large group events, the attendance may include as many as 400 patrons.

A full range of regular programs is provided at this Center. In addition, there is growing participation in special interest programs; however, these do not represent a major part of the Center's activities.

The Center is operated by two full-time recreation professionals. It is anticipated that the Center usage will remain fairly constant when the Center is moved to the found space, which is approximately the same size as the existing Center.

e. **PLANNED ACTIVITIES AND PROGRAMS.**

(1) *Administrative.* The two staff members are involved in planning and supervising the programs of the Center. While one is involved in

the programs in the Center, the other staff member operates the Control Center and ITT.

(2) *Large Group.* There are usually four planned weekly group functions; attendance is anticipated to range from 200-250 people in the Found Space Center. These activities are Friday night dances, Saturday night socials, Sunday night films and popcorn, and Wednesday night bingo. The Center will be used occasionally for Commander's Calls with approximately 50 people in attendance, and for unit parties of about 200 people.

(3) *Small Group.* The Center currently has 4 billiard tables and one pingpong table; because of budgetary reasons, it has been decided not to add any more game equipment in the Center. It has been anticipated that approximately 30 people will watch TV during a normal evening. Recorded music and drama listening has been a popular activity. Informal combo practice is a popular activity occurring frequently. It usually consists of from 1-6 persons practicing with approximately 5-10 onlookers. Sometimes patrons tape such activities or tape program speakers; an in-house audio/taping system enables this process.

(4) *Special Interest.* Among the special interest activities scheduled twice weekly are the gourmet cooking club with 15 members and coin collecting club with about 40 members. It is felt by the members and staff that they could use an enclosed multipurpose space for their meetings. In addition, there are classes of 10-40 people that meet as a particular subject becomes popular or interesting.

Based on the current and planned activities and requirements, an existing building consisting of 11,850 SF was determined as the building most suitable for the Center; it has two large spaces of 2000 SF each. Funds were available for some remodeling and interior demolition.

f. **SPACES REQUIRED.**

(1) *Large Group.* A central program area is the most critical space requirement. To adequately house the local recreation program, it has to accommodate 200 people for films and 250 people for dances.

200 x 8 SF/person = 1,600 SF

250 x 15 SF/person = 3,000 SF

The largest existing space is 2,100 SF. This is considered to be large enough if an adjoining lounge area is provided by demolishing some interior partitions.

(2) *Small Group.* A pool room is the most critical space for small group activities, which must be at least 22' wide to permit shooting without interference and be large enough to house 4 tables, or 1,000 SF. If pingpong is included, this would require an additional 2 tables, or 500 SF. The resultant space would have to be 26' x 57' for two rows of tables.

(3) *Other.* The other critical spaces would be a large enclosed multipurpose room for combo practice, meetings, or other activities, and a TV lounge for 30 viewers. The remaining spaces can be adapted from Chapter 3 to fit the structure after the above activities are housed.

g. SUMMARY OF SPATIAL REQUIREMENTS

Table 6-4. Spatial Requirements Found Space

Administrative Spaces	
Control	275
Administrative Offices	400
ITT	25
Storage	300
Large Group Activities	
Central Program Space	2,100
Platform (to be part of the central program space)	
Storage, Dressing, Loading	500
Small Group Activities	
Pantry	250
Telephones	100
Carrels (3)	90
Enclosed Multipurpose (small)	150
Enclosed Multipurpose (large)	600
Open Multipurpose	600
TV/Meetings	600
Active Games	
Billiards	1,000
Pingpong	500
AAFES Vending & Games	850
Lobby	350
Service Spaces	
Public Toilets	450
Janitor's closet	50
Net Total	9,190

Transition Space + Net to Gross @ 25% 2,300

TOTAL (Excluding Mechanical Space) 11,490*

*Because of the complications involved in fitting a program into existing space, additional square footage may be required.

h. **DESIGN SOLUTION.** The existing building lent itself to remodeling with the following alterations:

The entry was relocated to the corner of the entry court so that it would be controlled from the information desk.

The overall planning of the Center was based on the existing linear scheme developed by two large spaces separated by a corridor. In the remodeling, one of these spaces became the central program area and the other the active games area. This enabled the two activities to be located using the existing mechanical space as an acoustical buffer between them. The corridor was developed as a transitional space linking the control desk, the central program area, and the active game area with the small group activities located in existing spaces along the spine.

For economic reasons, it was decided to spend most of the budget in developing an adequate large group space and to fit the small group activities into existing spaces. Therefore, the large open multipurpose area was located in an existing 450 SF space. Because the large group activities held at the Center are usually not oriented toward presentation-type events, it was deemed advisable to have a smaller platform than usual and to locate it in a corner to permit greater flexibility in the use of the central space. The central space was designed with a stepped-up platform that diagonally spans the space, breaking it up into smaller more intimate lounges without reducing the space's ability to house large group activities, such as dances and bingo.

The other large space was divided to house the active games and the AAFES vending machine area. Because of spatial restrictions, this less than desirable proximity was acceptable.

In order to make the Center's new location more visible to the installation's population, the exterior entry court is to be painted with supergraphics.

Figure 6-11 **Plan Found Space Center**

FOUND SPACE CENTER

KEY

TRANSITIONAL ACTIVITY

- 1 Circulation/Lounge Space
- 2 Lobby

LARGE GROUP ACTIVITY

- 3 Central Program Area
- 4 Platform
- 5 Pantry

SMALL GROUP ACTIVITY

- 6 Active Game Area
- 7 TV Lounge
- 8 Open Multi-Purpose Area
- 9 Enclosed Multi-Purpose Areas
- 10 Telephone Lounge
- 11 Carrels

ADMINISTRATIVE ACTIVITY

- 12 Control Center
- 13 Administrative Offices
- 14 ITT

REFRESHMENT ACTIVITY

- 15 Vending

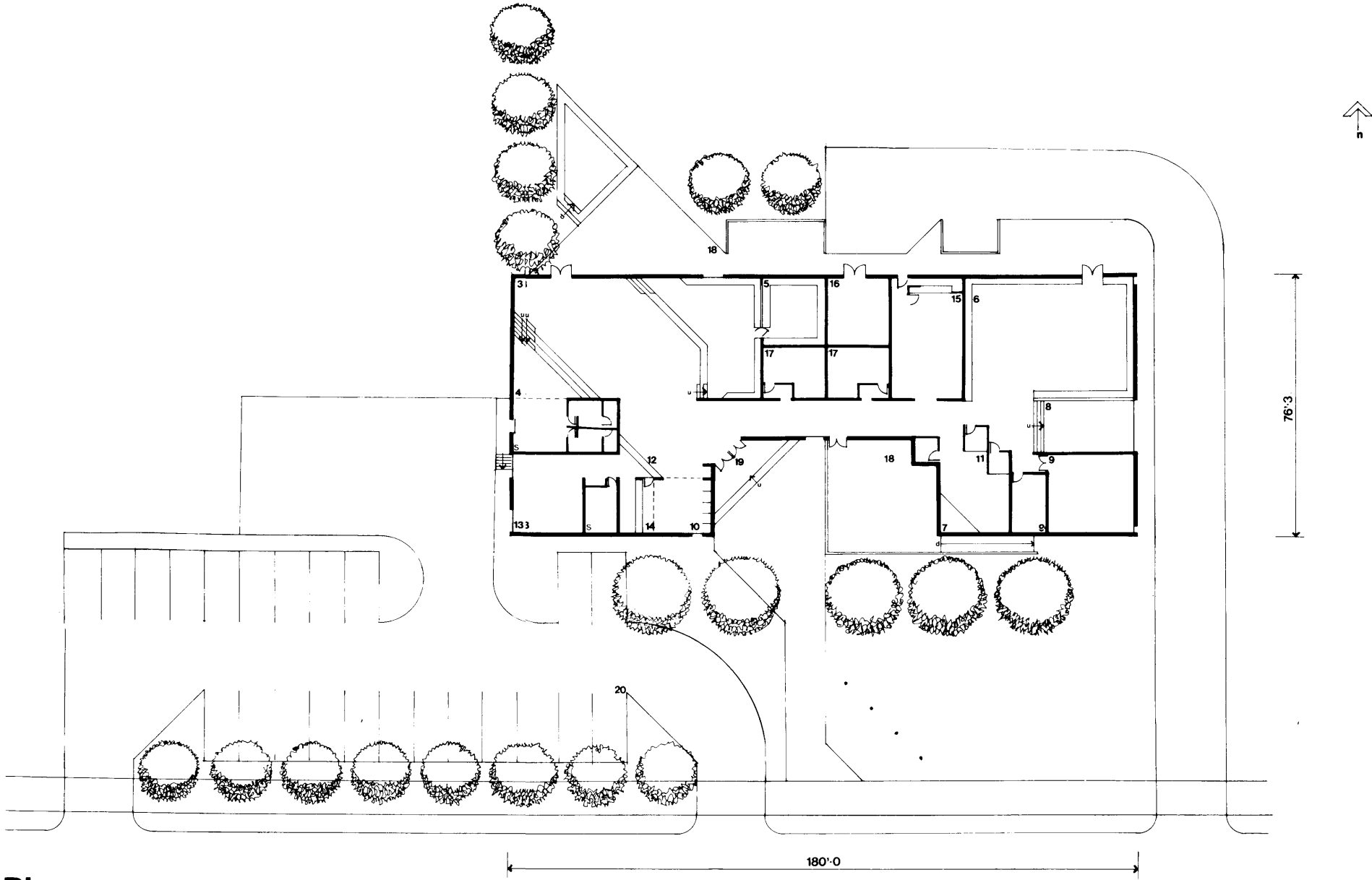
SERVICE ACTIVITY

- 16 Mechanical/Maintenance
- 17 Public Toilets

OUTDOOR ACTIVITY

- 18 Terrace
- 19 Entry Court
- 20 Parking

- l lounge
- s storage



Plan

6-6 REMODELED SPACE

a. **SITUATION.** Since March of 1955, Recreation Centers (formerly Service Clubs) were built from standard designs. Reviewing the success of these designs, several inherent strengths and weaknesses are apparent. In response to the changing demands placed on these facilities, a remodeling program should be developed which would retain the good features and correct the problems of the standard designs.

Inherent design strengths are the segregation of conflicting activities, a minimum of circulation with independent access to all spaces, and maximum control of the Center from the desk.

Major weaknesses are the result of changing recreational attitudes and needs, which require that spaces be adaptable to new programs and activities as old programs are phased out. For instance, the original program for Service Clubs was based on events such as “big band” dances in which a large crowd of dancers and a number of musicians would use the auditorium space. Current recreational programs must accommodate a myriad of small group activities. New programs such as ITT and special interest, and new activities such as coffeehouse and rap sessions have particular spatial needs which were not originally considered in the standard designs. In addition to programming problems, certain technological and design deficiencies such as soundproofing and a negative institutional appearance are also evident.

Since not all Centers face the same problems and economic constraints vary, the planning of any remodeling should be based on the local Recreation Center programs, the needs of the patrons and staff, and the physical condition of the Center facility. The intent of this case study is to show a series of modifications that can change an existing Center, incrementally correcting some of the more common problems. While these examples are taken from the 27,800 SF standard design, similar renovations can also be made to other size Centers.

b. **REMODELING PROCEDURE.** Analyze the existing Center in terms of its capacity to house the desired programs. The following questions should be answered:

- What are the programs we want to run in the Center?
- Can the existing building support these programs?
- What is right with the existing building and should be retained in the remodeling?
- What is wrong with the facility and should be changed?
- How will these changes affect the social and recreational programming?
- How much money can be spent?
- Will it be accomplished at one time or in a series of small changes?
- What are the Center’s priorities?
- Which problems have the most impact on the Center’s social programming and should be corrected first?

From the answers to these questions a remodeling program can be developed which states the problems that must be solved and the justification for funds to solve these problems. To establish this program and justification for funds, the issue reports should be developed by the Center staff and patrons and organized according to their impact on the Center’s operation. These issue reports should include:

(1) *A Supported Statement of the Problem to be Addressed*, i.e., there is too much noise, no space for special interest, no ITT, etc.

(2) *A Statement of the Specific Attributes of the Context in which the Problem Exists*, i.e., concurrent activities create serious noise problems in the current central program space; clubs are not forming and special interests are not being developed because there is no suitable space for meeting; there are no on-post travel and tour services available on the installation.

(3) *Changes Required to Correct the Problem.* A tentative statement of the solution to the problem to be further developed with engineering assistance; i.e., partition part of the ballroom to become a special interest room; provide sound insulation, sound absorptive materials, and solid core wood doors in noisy areas; provide an ITT desk in the lobby taking advantage of excess utility space.

(4) *A Statement of the Evidence Required.*

Evidence to support the importance of the problem, the accuracy of the context description, and the appropriateness of the solution, i.e., indications of patron interest or concern about the problem, indications of mission or life safety impacts, etc.

(5) *Costs.* The using service should seek professional assistance to review changes and their cost implications from the District Engineers to develop a realistic budget for the project.

(6) *Priorities.* According to the impact on the Center's social programming the list of problems, contexts and solutions should be tabulated according to the priorities. For example, the noise problem affects all aspects of the Center's functioning including the proposed special interest space; therefore it should have a high priority and be accomplished first.

(7) *Phasing.* Timing and sequence problems should be considered and listed, such as must the Center be closed during the alterations, and is there a sequence of construction operations which must be followed to allow the Center to function during the remodeling?

c. CHANGING THE CENTER. As an aid, this guide can be used to demonstrate what should happen in a Center and provide ideas and criteria for making changes for remodeling. The following shows what can be done with the existing Center to incorporate some of these ideas as an example. The planning and design of the remodeling for a particular Center must be based on local problems and needs.

Based on the severity of the problems, priority for change, and availability of funds, the Center can be changed in several ways; it can be redecorated, which requires a minimum of construction and usually implies the use of applied materials to make changes and can only affect the Center minimally. To change the Center significantly, the Center can be remodeled, which requires adding new construction and changing the existing construction; this affects the Center maximally. The following responses contain both recommendations.

Problem 1: Each space is required to handle too many incompatible activities. The design does not support any activity because it is too flexible and lacks the necessary features to define the space and its intended and potential uses.

Response: Use this guide to evaluate the current recreation program, set new space allocations, and compare them to the 1955 design standards. Table 6-5 demonstrates such a comparison.

Table 6-5. Comparison of 1955 Standard Design and Design Guide Criteria, 27,800 SF Centers.

Administrative Spaces	1955	DG
ITT	0	150
Control Center	770	800
Administrative Offices	725	775
Large Group Spaces		
Ballroom	6,080	0
Central Program Space	0	4,635
Stage	1,435	0
Platform	0	750
Dressing, Storage, Loading	1,738	1,200
Small Group Spaces		
Pantry	80	250
Telephones	198	300
Carrels	0	360
Music Room	650	0
Open Multipurpose	675	750
TV/Meeting	650	1,250
Active Games	1,767	3,670
Reading/Writing	1,610	0
Special Interest	0	1,200
Enclosed Multipurpose	0	1,200
AAFES Snack Bar and Games	3,934	3,450
Lobby		
Service Spaces		
Public Toilets	983	650
Janitor's Closet	122	50

ž Which have to be separated?

ž Which activities don't have a supportive environment?

ž What modifications have to be made?

Significant changes can be made without remodeling by relocating activities and using furniture and wall and color treatments to divide large spaces. Also, by using movable space dividing screens, plants, and other open office planning techniques, the effectiveness of the space can be increased.

Further changes require remodeling of the facility, such as the addition of carrels, small built-in lounges, built-in seating, or the enclosure of noisy activities.

Establish a new space-use program based on the evaluation.

- Which activities have similar requirements and can overlap?

Problem 2: The large ballroom is dysfunctional because it is too large for most programs; it is out of scale when not filled with people and has poor lighting.

Response: The most effective changes to this problem can only be brought about by remodeling; however, some significant changes can be made by redecorating.

Redecorate: Decrease the apparent size by

dividing the space into activity areas using movable screens, large floor and hanging plants; suspending lightweight panels from the ceiling, such as plywood disks, stretched fabric panels, or banners and flags. These suspended panels can be used horizontally to reduce ceiling heights or vertically to decrease room size. Activity areas can also be created by the paint and color scheme.

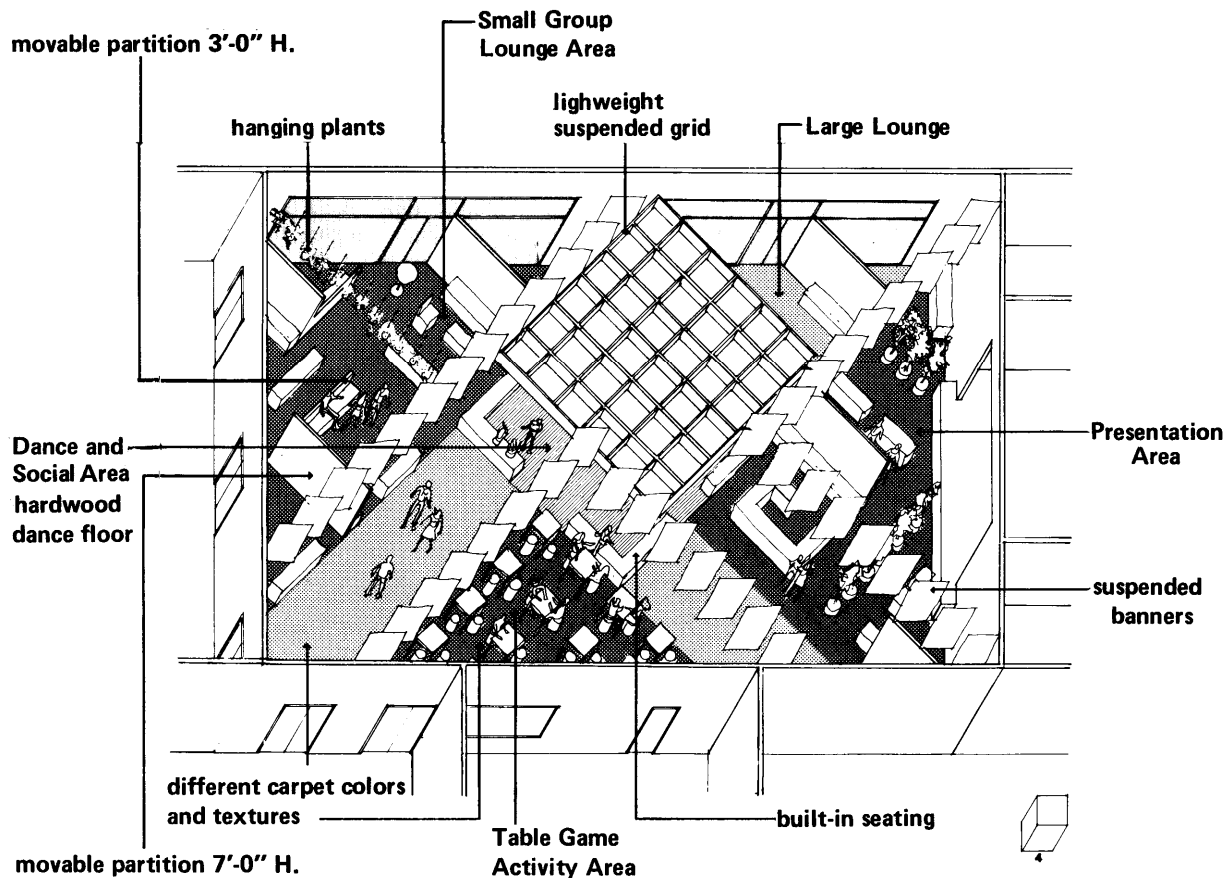


Figure 6-12 Redecoration of Ballroom to Decrease Its Apparent Size

Remodel: Break down the space by adding small group activity spaces, by using raised areas, half-height partitions, built-in seating for lounge and game-playing areas.

Project the stage into the central space with stepped platforms and reduce its size; use the existing stage for storage; use the existing storage as a pantry.

Drop panels from the ceiling to define lounge areas and reduce scale.

Develop stem-mounted, multi-circuit lighting track system for flexible lighting. Reduce the number of ceiling mounted light fixtures.

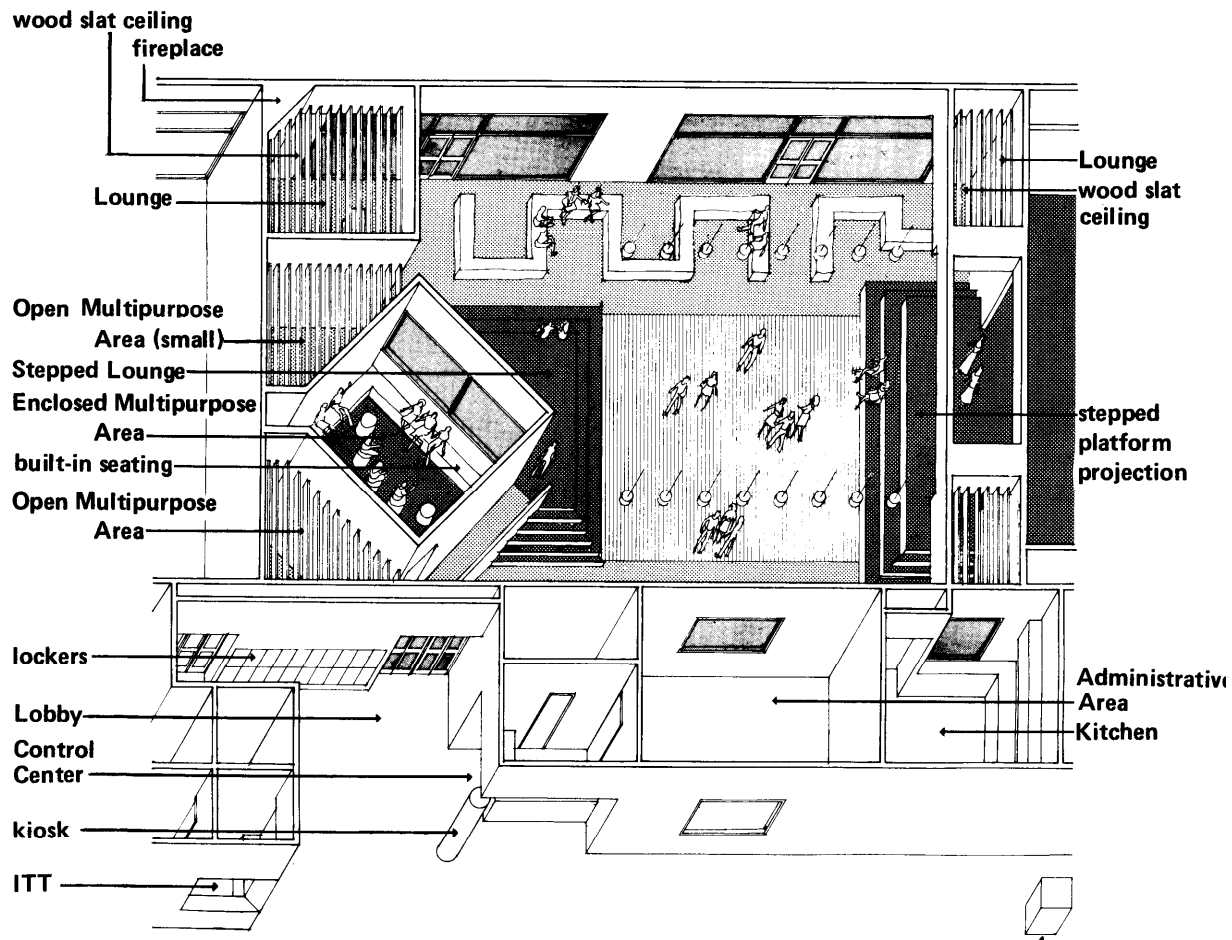


Figure 6-13 Remodeling of Ballroom Into a Central Program and Small Group Activities Areas

Problem 3: New programs have been added after plans were developed and do not have space allocated to them.

Response: Redecorate: Change the function of spaces: the quiet reading room could become a Special Interest room if a storage wall and counter are added. Add functions to existing space: a free-standing ITT office and lounge could be developed in the lobby space.

Remodel: Reduce the size of the ballroom and use the remaining space for new programs.

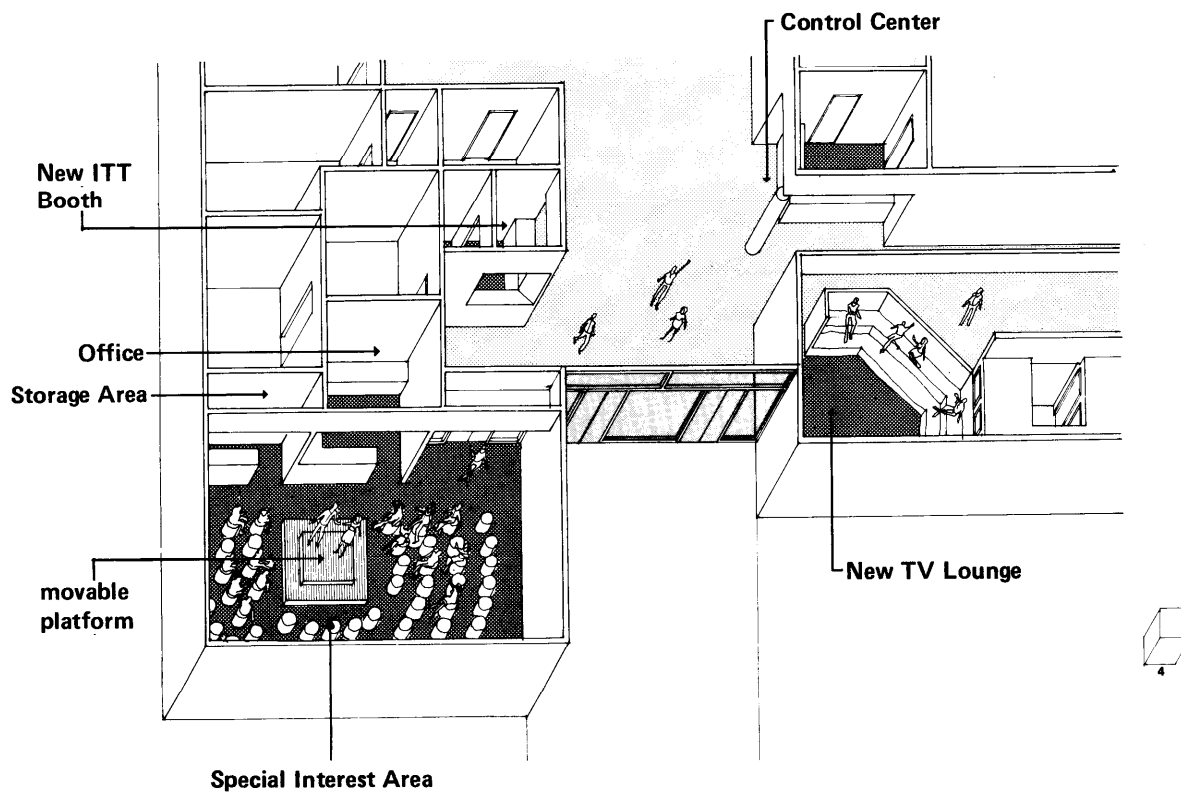


Figure 6-14 Renovations for Special Interest Room, TV Lounge and ITT Booth

Problem 4: The existing Center has an institutionalized appearance; the image of the Center should be informal, non-military, and provide a change of pace from the duty environment. This institutionalized appearance is conveyed by the Center's large spaces, long corridors, use of materials, color schemes, uniform lighting systems, and lack of identity markers.

Response: Redecorate: Change paint schemes by asking soldiers to indicate preferences of colors from TM 5-807-7. Don't use wainscot treatment; change interior finishes.

Cover exposed block walls with different material – i.e., fabric panels, gypsum wall-board, paneling, vinyl wall covering, or carpeting on floors. This will also reduce the sound level.

Create a Center identity by employing a distinctive and unified graphic treatment using the Center's name or logo or supergraphics to indicate space identification or intended use.

Remodel: Redesign the lighting system to be more activity-oriented with changes in light level rather than the existing uniform scheme. Use special lighting effects and dimmers; this would also conserve energy.

Develop new spatial configurations by using built-in furniture and low partitions to define the spaces; demolish walls, introduce level changes, drop ceiling panels, and reorganize circulation system.

Problem 5: Because of the hard surfaces throughout the Centers, the building lacks sound absorption qualities, creating a tremendous acoustical problem. Additional problems exist because this sound is transmitted between spaces.

Response: The solution to the problem is two-fold: absorb as much sound as possible in the space where it is generated and prevent sound from escaping into other spaces.

Redecorate: Separate conflicting activities by locating other activities between them.

Add absorptive materials where possible, such as fabric acoustical wall panels, fiberglass sound absorption panels in active game areas and enclosed multipurpose space; carpet floors; add sound baffles to ceiling; change doors to solid core wood doors with sound insulating seals; seal cracks between spaces.

Remodel: Enclose noisy activities with sound-proof walls which would have a sound transmission rating of +40 dB or greater and with a sound barrier installed above the ceiling and coincident to the partition. Install acoustical tile ceilings in noisy areas with an NCR equal to .85 and STC equal to 35 dB or greater. Where possible, erect sound baffles at doorways of noisy activity spaces.

Eliminate openings between spaces where possible, such as louvers, return air grilles, etc., install sound baffles in ventilating system.

Problem 6: The exterior design of the building fails to attract people into the Center.

Response: The solution is to increase the passerby's awareness of the Center and the activities taking place within. To do so, the Center's exterior should be made as distinctive and attractive as possible.

Redecorate: Landscape site around Center with plantings. Paint Center with an attractive and distinctive color scheme. Install signage to announce events and activities.

Remodel: Develop a landscaped entry court with trees, benches, and integrated lighting as outlined in Chapter 4-8.2.

Problem 7: The Centers lack any meaningful outside social spaces and recreational areas.

Response: Redecorate: Install plantings around existing patio to extend it visually. Add new seating areas that use loose paving materials, such as gravel and tan bark. Install outdoor seating arranged in small groups.

Remodel: Based on an analysis of the site and local climatic conditions, the existing concrete patio can be remodeled and enhanced through the addition of a terraced outdoor platform, low walls, planters, tree pits, and built-in outdoor benches. Materials other than plain concrete, such as brick or stone pavers, exposed aggregate concrete, tan bark, and railroad ties should be used if local climate and economics permit. The outside recreational areas should conform to Chapter 4-8.1 of this design guide.

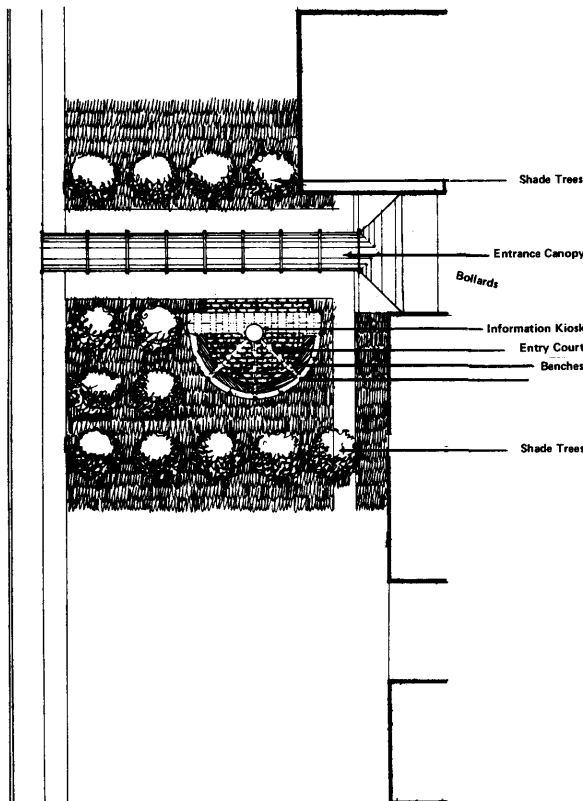


Figure 6-15 Entry Court Redesign

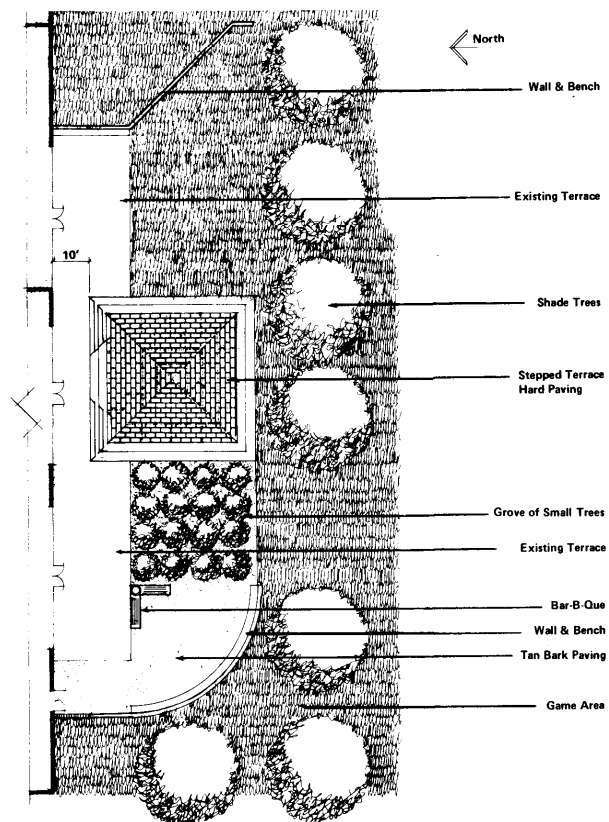


Figure 6-16 Terrace Redesign

Figure 6-17 **Remodeled Center**

REMODELED CENTER

KEY

TRANSITIONAL ACTIVITY

- 1 Circulation/Lounge Space
- 2 Lobby

LARGE GROUP ACTIVITY

- 3 Central Program Area
- 4 Platform
- 5 Pantry

SMALL GROUP ACTIVITY

- 6 Active Game Area
- 7 TV Lounge
- 8 Table Game Area
- 9 Enclosed Multi-Purpose Areas
- 10 Telephone Lounge
- 11 Carrels
- 12 Special Interest Area

ADMINISTRATIVE ACTIVITY

- 13 Control Center
- 14 Administrative Offices
- 15 ITT

REFRESHMENT ACTIVITY

- 16 Snack Bar
- 17 Kitchen

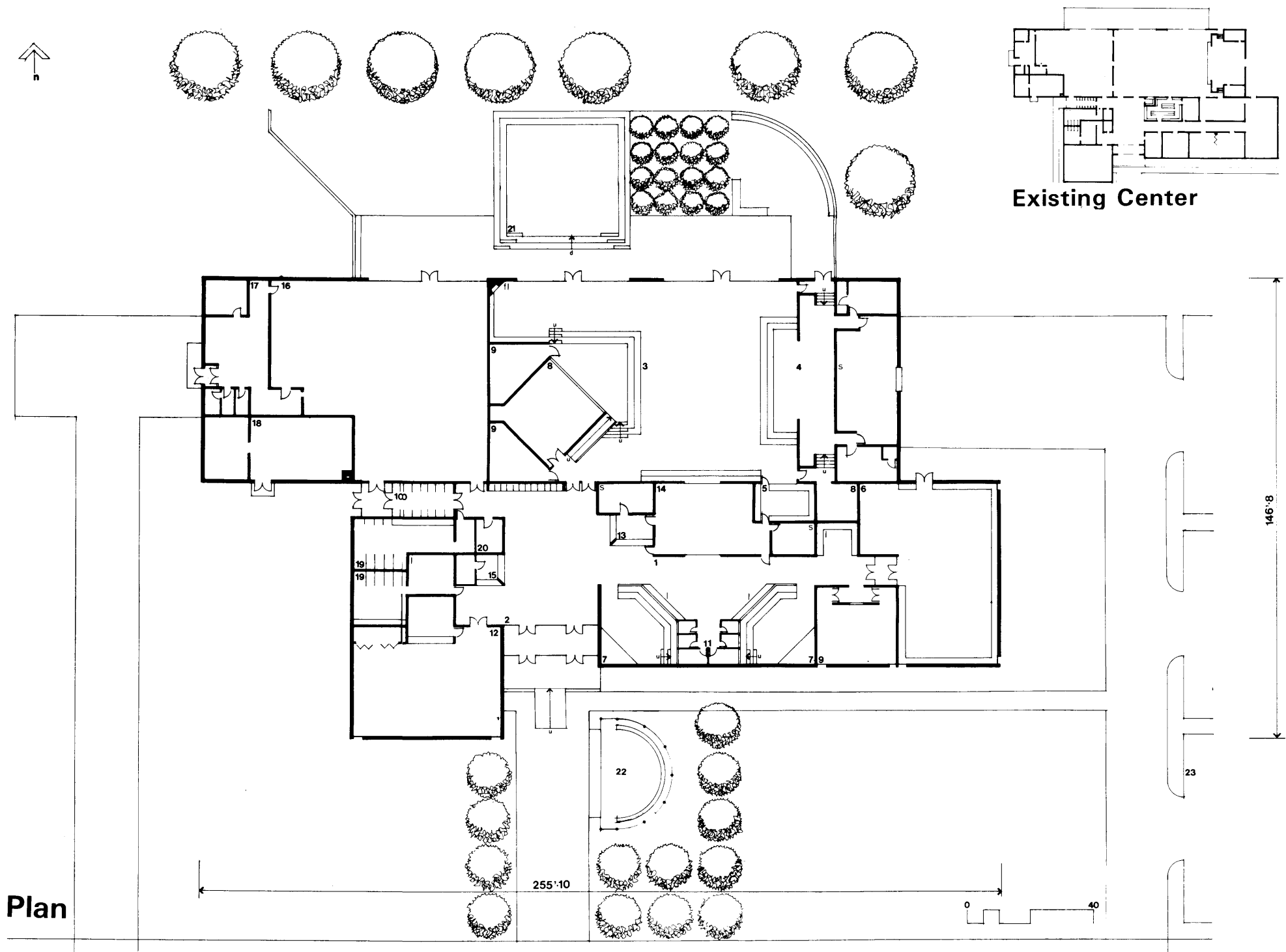
SERVICE ACTIVITY

- 18 Maintenance — Mechanical
- 19 Public Toilets
- 20 Janitor's Closet

OUTDOOR ACTIVITY

- 21 Terrace
- 22 Entry Court
- 23 Parking

- s storage
- l lounge
- fl fireplace lounge



Plan